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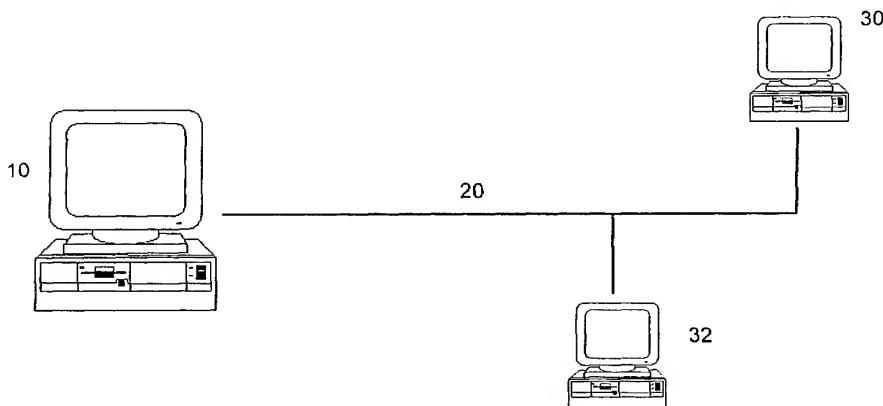
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(54) Title: DOCUMENT GENERATION



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(57) Abstract: A document generation system for generating a customised document using predetermined elements of document content selected by rules operating on input information; characterised in that: the system is capable of generating a partially customised document by evaluating some of the rules to select some of the predetermined elements, and associating other of the rules and corresponding predetermined elements with the partially customised document for later use in generating a further customised document.

DOCUMENT GENERATION

Field of the present invention

5 The present invention relates to rule-based document generation systems for generating customised documents from document templates. In particular, but not exclusively, the present invention relates to generating customised documents using predetermined elements of content for possible use when generating a customised document and associated rules for determining the use to be made of the predetermined
10 elements of content when generating a customised document.

Background

Manual and computer-implemented approaches to generating customised documents from document precedents or templates are known.

15 Manual approaches typically involve starting with a written or printed standard form document (such as a standard form contract or other legal precedent) and filling in any missing information (such as the names of the parties) as well as deciding whether to include any optional portions or choosing between alternative portions (such as optional or alternative contract clauses) to create the final customised document. Some
20 standard form documents include instructions to help the creator of the customised document fill in any missing information and decide what to do with any optional or alternative portions.

Computer-implemented approaches to document generation are becoming increasingly important. Computer-implemented document generation systems often
25 use electronically stored document templates comprising predetermined elements of

content (such as the text of standard form contract clauses) for possible use when generating a customised document and, associated with the predetermined elements of content, electronically stored rules (such as logical rules, criteria or formulae which depend on the value of unknown variables) for determining the use to be made of the 5 predetermined elements of content when generating a customised document.

A known document generation system which adopts this approach is described in International Publication Number WO 01/04772 in the name of the present applicants, Business Integrity Ltd. According to this system, a server computer runs a document generation program and is capable of communicating with local or remote 10 client computers over a local area network (LAN) or wide area network (WAN) such as the Internet. A standard document, comprising units of known information and associated logical rules, is first translated into a form suitable for processing by the document generation program. When instructed to generate a customised document, the server first generates one or more Web pages which are sent to client computers for user 15 input of the further information required to evaluate the logical rules. Users may then submit the further information to the server. Once all the required further information has been captured, the server generates a customised document on the basis of the standard document and received further information.

One problem with document generation systems following the above approach 20 is that all the further information required to generate a customised document may not be available from one particular source at one particular time. In other words, there may be several different items of required information and these may be 1) available only from different sources – for example from different people, databases or expert systems – or 2) available only at different times. International Publication Number WO

01/04772 provides a solution to this problem by allowing information to be captured from different sources at different times using several Web pages.

European Patent Specifications EP 0475964 B1 and EP 0481995 B1 concern related inventions. EP 0475964 B1 describes a document generation system and EP 5 0481995 B1 describes an expert system. Both specifications describe a concept of “don’t know” values in which users may provide “don’t know” as a possible input to the system in response to a query for further information required to evaluate a term (ie a variable). This is achieved by adding a predefined value “don’t know” to the class of values which may be accepted by the system. The concept of “don’t know 10 dependencies” is also described. Terms which are dependent on other terms which have the value “don’t know” are i) evaluated to “don’t know” if no value can be determined without the other term, or ii) estimated to the extent that some value can be determined without the other term. “Don’t know values” and “don’t know” dependencies allow partially customised documents to be generated despite insufficient 15 information being provided to generate a fully customised document. Where a term (such as the phone number of a client) evaluates to “don’t know”, the generated document includes the text “don’t know” at the appropriate point.

One problem with the document generation system described in European Patent Specifications EP 0475964 B1 and EP 0481995 B1 is that, while the provision of “don’t 20 know” values may be useful in the case where the information required is simply the value of term to be inserted in a generated document at an appropriate point, it is of limited use where the information required involves the election of one or more predetermined options or alternatives from a list, which election determines whether or not corresponding optional or alternative elements of content (such as contract clauses)

are to be included in the generated document. In the latter cases, where a “don’t know” value is returned, none of the corresponding elements of content are included in the generated document which may therefore be of very limited use.

Furthermore, the described document generation system does not distinguish
5 between lists of options and alternatives in that in both cases the user must either provide a definite answer or “don’t know” all the listed items whether options or alternatives. In the case of option lists, this may result in information which a user may be able to provide (such as definite answers to some but not all of the options) not being captured which is inefficient.

10 Moreover, with the document generation systems described in both International Publication Number WO 01/04772 and in European Patent Specifications EP 0475964 B1 and EP 0481995 B1, once a process to generate a customised document has been started, using a particular document generation system operating on a particular server or computer, the process must be continued to completion using that
15 system. This has disadvantages in that the utility of the document generation systems and generated customised documents is decreased, and in that data security is an issue, particularly where data, such as potentially confidential information provided from multiple sources over a period of time, is held on a server connected to other computers over a LAN or WAN.

20

Summary of the present invention

According to a first aspect of the present invention, there is provided a document generation system for generating a customised document using predetermined elements of document content selected by rules operating on input information;

characterised in that: the system is capable of generating a partially customised document by evaluating some of the rules to select some of the predetermined elements, and associating other of the rules and corresponding predetermined elements with the partially customised document for later use in generating a further customised 5 document.

Advantageously, the first aspect allows a partially customised document to be generated from a document template, which partially customised document may itself be re-used as a document template in the same or another document generation system to continue the document generation process. Thus, the partially customised document, 10 which may be stored in one or more data files, may be transported, for example via data storage media, between different document generation systems operating on different servers or computers so as to continue the document generation process. Thus, utility and data security are greatly enhanced, particularly for document generation processes in which information is required from different sources or at different times.

15 Preferably, the other rules are represented in the partially customised document in the form of mark-up of the corresponding predetermined elements. Thus, the generated partially customised document is presented in a format which may be readily understood by human beings, for the purposes of negotiation with another party for example, as well as machines.

20 In one embodiment, the partially customised document is generated in response to input information which is sufficient to evaluate at least some of the other rules, but which indicates that the other rules should not be evaluated. Thus, the document generation system provides increased efficiency of data capture in that partial information may be captured, for example from a user selecting some but not all the

items on an option list, despite the user being unsure of the responses to all the listed items.

According to a second aspect of the present invention, there is provided a document generation system comprising:

5 means for accessing a document template comprising predetermined elements of content for possible use when generating a customised document;

means for accessing data associated with the document template, the data representing first and second rules for making, respectively, first and second determinations as to the use to be made of the predetermined elements of content when 10 generating a customised document, the first and second determinations each requiring further information to be received;

means for receiving information enabling at least the first determination to be made; and

means for making the first determination on the basis of the received 15 information;

characterised in that the system comprises:

means arranged to generate a partially customised document in accordance with the outcome of the first determination; and

means arranged to associate, with the generated partially customised document, 20 data representing the second rule.

Advantageously, the second aspect allows a partially customised document to be generated from a document template which may itself be re-used as a document template in the same or another document generation system to continue the document generation process. Thus, the partially customised document, which may be stored in

one or more data files, may be transported, for example via data storage media, between different document generation systems operating on different servers or computers to continue the document generation process. Thus, utility and data security are greatly enhanced, particularly for document generation processes in which information is 5 required from different sources or at different times.

Preferably, the partially customised document comprises one or more of the predetermined elements of content selected to enable further customised documents to be generated, from the partially customised document, for each possible outcome of the second determination. Thus, the partially customised document is sufficient to enable 10 the document generation process to be continued to completion whatever the further information is provided to enable the second determination to be made.

Preferably, the second rule is represented in the partially customised document in the form of mark-up of the selected one or more elements of content. Thus, the generated partially customised document is presented in a format which may be readily 15 understood by human beings, for the purposes of negotiation with another party for example, as well as machines.

In one embodiment, the received information comprises at least part of the information required to enable the second determination to be made and an indication that the second determination should not be made. Thus, the document generation 20 system provides increased efficiency of data capture in that information may be captured, for example information enabling the second determination to be made, despite the information being considered as unsure. Thus, when continuing the document generation process, using the partially customised document, the unsure information provided may be confirmed or rejected.

According to a third aspect of the present invention, there is provided a document generation system for generating a customised document using predetermined elements of document content selected by rules operating on variables, the variables representing items of input information; characterised in that:

5 the system is capable of receiving an indication of whether or not a state of a variable is definite, and the system, when processing data in dependence on the variable, responds differently to an indication that the state is definite than to an indication that the state is not definite.

Advantageously, the third aspect allows the documents generation system to
10 receive input which may or may not contain a value for a variable, but which includes, as a separate matter, an indication of whether or not the state of the variable is definite. Thus, for example, a user may defer providing a value for a queried variable, or provide a value for a queried variable together with an indication that the value is unsure. Thus, the system allows for more efficient capture of information.

15 Preferably, the system is capable of receiving a plurality of mutually independent indications of whether or not the respective states of a respective plurality of variables are definite, the plurality of indications being received in a single response to a request for input information. Thus, for example, a user presented with an options list, may indicate that some options are definitely required or not required, and that
20 others are unsure. Other aspects of the present invention are set out in the appended claims. There now follows, by way of example only, a detailed description of preferred embodiments of the present invention in which:

Brief Description of Diagrams

Figures 1, 2, and 3 are schematic diagrams showing a typical networked arrangement of computers suitable for implementing the present invention;

Figure 4 is a flow diagram showing the process followed by a document 5 generation system according to the present invention;

Figures 5a, b and c show a simple document template (Figure 5a) and two customised documents (Figures 5b, c) that may be generated in a document generation system in which all further information must be received;

Figures 6a, b, c, and d show conventional two-state logic tables for the logical 10 operators AND, OR, XOR and NOT;

Figures 7a, b, c, and d show three-state logic tables for the logical operators AND, OR, XOR and NOT according to the present invention;

Figure 8 shows a three-state logic comparison table for the comparators IS, IS 15 NOT, LESS THAN and MORE THAN;

Figure 9 shows a relatively more complex document template than that of Figure 5a;

Figures 10a, b, c, d, e, f, and g show input forms for user input of further information in which some answers may be provided, some may be deferred and some may be provided but marked as unsure;

Figures 11a, b, c to 19a, b, c show input forms as provided with full or partial 20 information by a user (Figures 11a to 19a), deduced rule evaluations (Figures 11b to 19b), and the generated fully or partially customised documents that result (Figures 11c to 19c).

Detailed Description of Preferred Embodiments of the Present Invention

The present invention is implemented using one or more data processing means. Where more than one data processing means are used, they are connected together using communication means. Client/server architecture is used. One of the data processing means functions as a server and the other data processing means function as clients. If the present invention is implemented using one data processing means, the single data processing means functions as both server and client. Figures 1, 2 and 3 show typical arrangements of data processing means and communication means for implementing the present invention.

10 Figure 1 shows a server computer 10 connected to two local client computers 30 and 32 by means of a local area network (LAN) 20. Each computer 10, 30 and 32 runs an operating system program such as Microsoft Windows 2000 ProfessionalTM and network programs such as Novell NetwareTM. The server computer 10 also runs a Web server application such as Microsoft Internet Information ServerTM. Each of the local 15 computers 30 and 32 also run a browsing application such as Microsoft Internet ExplorerTM. Server computer 10 and local computers 30 and 32 communicate with each other using Transmission Control Protocol/Internet Protocol (TCP/IP) and Hypertext Transfer Protocol (HTTP). Together, server computer 10, local computers 30 and 32, and LAN 20 form an intranet.

20 Figure 2 shows server computer 10 connected to four client computers 31, 33, 35 and 37, which may be local or remote, by means of connections to the Internet 22. Each computer 10, 31, 33, 35 and 37 runs an operating system program such as Microsoft Windows 2000 ProfessionalTM and network programs such as Novell NetwareTM. The server computer 10 also runs a Web server application such as

Microsoft Internet Information Server™ and is arranged to accept and respond to client requests from the Internet 22. Each of the computers 31, 33, 35 and 37 also run a browsing application such as Microsoft Internet Explorer™. Server computer 10 and computers 31, 33, 35 and 37 communicate with each other using Transmission Control

5 Protocol/Internet Protocol (TCP/IP) and HTTP.

Figure 3 shows a server computer 10 connected to two local client computers 30 and 32 using a LAN 20 and also connected to two remote client computers 34 and 36 through the Internet 22. Each computer 10, 30 and 32 runs an operating system program such as Microsoft Windows 2000 Professional™ and network programs such 10 as Novell Netware™. Server computer 10 also runs a Web serving application such as Microsoft Internet Information Server™. Each of client computers 30, 32, 34 and 36 also run a browsing application such as Microsoft Internet Explorer™. Proxy servers and firewalls (not shown) may be used to protect the intranet from unauthorised access from computers connected to the Internet 22. Server computer 10, local computers 30 15 and 32 and remote computer 34 and 36 communicate with each other using TCP/IP and HTTP.

Henceforth in this document, the arrangement of computer systems and communication means as described above with reference to Figure 3, being the most general of the arrangements described above, will be used to describe embodiments of 20 the present invention.

One or more of the computer systems 10, 30, 32, 34 and 36 runs a word processing application such as Microsoft Word™. Microsoft Word™ is used to create document templates and may be used to view the fully or partially customised documents generated. As will be described below in greater detail, the document

template consists of one or more predetermined elements of content for possible use when generating a customised document, and one or more associated rules for determining, on the basis of further information to be received, how to use the predetermined elements of content when generating a customised document.

5

Description of Document Generation Program

Server computer 10 also runs a document generation program which, when provided with a document template, generates one or more input forms to capture further information from a user, the input forms being generated on the basis of rules 10 contained in the document template. The document generation program then generates a fully or partially customised document on the instruction of a user. The document generation program may be run as a server program and is instructed to perform tasks by users of client browser applications.

To generate a new fully or partially customised document from a document 15 template, the user of a client computer instructs document generation program by passing a URL GET request or POST request to server computer 10. The document generation program initiates a session with the user of the client computer. On the basis of the document template, the document generation program may generate one or more Web input forms which are passed via a Web server application to the client computer. 20 The Web input forms use the standard data-entry features of Hypertext Mark-up Language (HTML) such as push buttons, free-form text entry boxes, tick boxes, pull-down menu list boxes, radio buttons, and other graphical user interface (GUI) means for inputting information. It will be understood that the document generation program may generate multiple input forms for distributing to and capturing further information from

the users of one or more further client computers. Similarly, the document generation program may generate multiple input forms for capturing further information from a user of one client computers in stages. However, for the purpose of describing the process followed by the document generation program, it will be assumed that only one 5 user of one client computer is involved.

Figure 4 is a flow diagram showing the process followed by the document generation program. At step 40, the document generation program waits for an instruction from the user to generate a new customised document from a document template. On receiving such an instruction, the document generation program 10 generates, at step 42, a first input form on the basis of the rules contained in the document template. The user then enters information, using the input form, which is received by the document generation program at step 44. Then, at step 46, the document generation program determines whether the received information is sufficient to evaluate all the rules. If yes, the process continues to step 52 where the document 15 generation program generates a customised document. If not, the process continues to step 48 where the document generation program determines whether or not it should proceed to generate partially customised document nonetheless. If it should, the process continues to step 50 where server computer 10 generates a partially customised document. Importantly, the partially customised document contains not only the 20 predetermined elements of content the use of which has been determined, according to the evaluated rules, but also the rules which have not been evaluated in association with the predetermined elements of content corresponding to those rules, as will be described below. The association between the predetermined elements of content and rules may be represented by means of mark-up.

On the other hand, if document generation program determines, at step 48, that it should not proceed to generate partially customised document, the process continues to step 42 where server computer 10 generates a further input form for capturing the further required information and sends it to the client computer. The process then 5 continues as before.

Whether or not server computer 10 should proceed to generate partially customised document not having received all the further information required to generate a fully customised document may be indicated by the user when submitting the preceding input form. For example, an optional tick box may be provided to so 10 indicate. In further embodiments of the present invention, the document generation program may be instructed to generate a partially customised document, by not evaluating a rule, despite sufficient information having been received to enable the rules to be evaluated. In this case, the partially customised document will again be generated as described above, ie. it will contain not only the predetermined elements of content the 15 use of which has been determined, according to the evaluated rules, but also the rules which have not been evaluated in association with the predetermined elements of content corresponding to those rules.

Example Document Templates and Generated Partially or Fully Customised Documents

20 The present invention may be better understood by describing an example document template and various partially or fully customised documents that may be generated from it. First, however, it is useful to briefly describe a simple example document template and two customised documents that may be generated by a document generation system in which all further information must be received and in

which all decisions concerning whether or not to include predetermined elements of content must be made, resulting in customised documents that either contain the elements of content or omit the elements of content depending upon whether the associated rules evaluate to true or false, respectively.

5 Suppose an agreement contains two jurisdiction clauses, one for England and Wales and the other for Scotland. This might be represented in a document template as shown in Figure 5a. Figure 5a comprises two clauses for possible inclusion in the customised document (two jurisdiction clauses) and two associated rules. Note that the clauses, and their association with the rules, are identified in the document template by 10 means of mark-up – namely, left and right square brackets for surrounding the clauses together with superscript and subscript numerals associating the clauses with their corresponding rules which are themselves preceded by corresponding numerals.

The rules in Figure 5a are dependent on a single variable “Jurisdiction.” The rules are:

15 1) Jurisdiction IS "England and Wales"
2) Jurisdiction IS "Scotland"

The rules, when evaluated to either true or false, determine whether or not their corresponding clauses are included in the generated customised document. Thus, if rule 1) is true then a customised document is generated containing the England and Wales 20 jurisdiction clause as shown in Figure 5b, whereas, if rule 2) is true then a customised document is generated containing the Scotland jurisdiction clause as shown in Figure 5c.

The present invention introduces the possibility that a partially customised document may be generated, despite the document generation program not evaluating

all the rules. For example, a value for the variable "Jurisdiction" may not be received, in which case neither of rules 1) and 2) above may be evaluated. In rule-based systems, complex rules may be formed by combining simple rules (or variables which evaluate to true or false) using logical operators or comparators. Evaluation may or may not be possible for a complex rule depending on whether evaluation is possible for the simple rules it is constructed from and depending on the logical operators or comparators used for construction. Where a simpler rule is unevaluated, we shall refer to it as having a value "indefinite." When complex rules are constructed from simple rules which may be unevaluated (indefinite), expanded rules of logic are required. For reference, conventional two-state logic tables are shown at Figures 6a, 6b, 6c and 6d for the logical operators AND, OR, XOR and NOT. The present invention uses a three-state logic as shown for the logical operators AND, OR, XOR and NOT in the logic tables of Figures 7a, 7b, 7c and 7d. Thus, for example, the complex rule:

(Jurisdiction IS "England and Wales") OR (Jurisdiction IS "Scotland")

may be evaluated using logical rules as set out in the table of Figure 7b. If

(Jurisdiction IS "England and Wales") is false

then the complex rule:

(Jurisdiction IS "England and Wales") OR (Jurisdiction IS "Scotland") is:

- 1) true, if (Jurisdiction IS "Scotland") is true
- 20 2) false, if (Jurisdiction IS "Scotland") is false
- 3) indefinite (cannot be evaluated), if (Jurisdiction IS "Scotland") is indefinite.

According to the present invention, when querying a user to provide information, ie a value for a variable, the user may 1) provide a sure value, 2) defer the

query by not providing a value, or 3) provide a value but indicate that it is unsure. The process followed by a document generation program according to the present invention when deferring a query or indicating that a provided value is unsure will be described below. However, it will be understood that, where a comparison is made between a first 5 value and a second value, and the first value is deferred or indicated as unsure, it may not be possible to evaluate the comparison even if the second value is sure.

Figure 8 shows a table setting out the possible outcomes where a first value (which is either sure, unsure or deferred) is compared to a second value (which is sure) using four comparators IS, IS NOT, LESS THAN and MORE THAN. Thus, for 10 example, the comparison (Jurisdiction IS “England and Wales”) is:

- 1) indefinite (cannot be evaluated) if the variable Jurisdiction is “England and Wales” but is indicated as UNSURE;
- 2) false if the variable Jurisdiction is not “England and Wales” even though it is indicated as UNSURE; and
- 15 3) indefinite (cannot be evaluated) if the variable Jurisdiction has been deferred.

A slightly more complex example of a document template will now be described together with input forms which may be generated to capture the required further information and the fully or partially customised documents which may be generated, depending on the information received. The following examples will illustrate the 20 effects on fully or partially customised documents when 1) definitive (ie sure) choices are made; 2) choices are deferred; 3) choices are made but deemed to be unsure and 4) combinations of the above.

Consider a document template containing a clause for the governing Law with variations that depend upon whether the jurisdiction is England and Wales, Scotland or

Japan. Furthermore, in the case of Japan, disputes can be resolved in either the district court of Tokyo or the district court of Kyoto. Such a document template might be represented as shown in Figure 9 which adopts the same style of mark-up as described above. The rules governing such a document template are not particularly complex, but

5 the variety of possibilities for user input of information and the variety of resulting fully or partially customised documents that may be generated as a result are rich.

Figure 10a shows an input form for capturing the values of the variables Jurisdiction and JapaneseCourt. For each variable there are a number of form fields that can be presented in an input form: 1) a prompt for the variable; 2) the variable input

10 which is determined by its type and possible selections; 3) a single checkbox whereby the user indicates that the variable is deferred; 4) a single checkbox whereby the user indicates that they are unsure of the answer to a group of possible selections; and 5) a group of checkboxes whereby the user indicates which selections they are unsure about.

The relevance of the JapaneseCourt variable is determined by the value of the

15 Jurisdiction variable, and is irrelevant if the Jurisdiction is not "Japan". This dependency relationship is deducible from the document template since the JapaneseCourt variable is only mentioned in the clause that is controlled by Jurisdiction = "Japan". Thus, when the user selects either of the other options for Jurisdiction the form fields for the JapaneseCourt variable are dynamically disabled as shown in Figure 10b.

20 If the user defers the Jurisdiction variable then three changes are dynamically made to the input form: 1) the input field for the variable is disabled; 2) the unsure checkbox is disabled; and 3) all variables that are dependent upon the Jurisdiction are re-enabled as shown in Figure 10c. Similarly if the JapaneseCourt variable is also deferred the input form is dynamically changed as shown in Figure 10d.

If the user is unsure about the Jurisdiction variable then three changes are dynamically made to the input form: 1) the input field for the variable is changed to a group of checkboxes so that multiple selections can be made; 2) all of the selections are pre-checked; and 3) all variables that are dependent upon the Jurisdiction are 5 enabled as shown in Figure 10e. Similarly if the user is also unsure about which JapaneseCourt the input form is dynamically changed as shown in Figure 10f.

With unsure answers, as with sure answers, the dependencies between variables are maintained. Thus, if the user is unsure as to whether the Jurisdiction is "England and Wales" or "Scotland" but sure that it is not "Japan" then the JapaneseCourt variable is 10 disabled as shown in Figure 10g.

The following rules define the circumstances when the form fields for a variable are enabled/disabled:

- 1) Let V be a variable that occurs k times in a document template.
- 2) Let L_1, L_2, \dots, L_k be the logic statements in the document template that 15 control each occurrence of variable V .
- 3) Let F_{prompt} be the static prompt field for variable V .
- 4) Let F_{input} be the type-specific input field for variable V .
- 5) Let F_{defer} be the defer checkbox for variable V .
- 6) Let F_{unsure} be the unsure checkbox for variable V .
- 7) Let $F_{unsure-group}$ be the group of checkboxes denoting the possible selections 20 for variable V .

Then the enable/disable behaviour of F_{prompt} is defined as follows:

25 IF $(L_1 \text{ OR } L_2 \text{ OR } \dots \text{ OR } L_k)$ EVALUATES TO (true OR indefinite)

AND F_{defer} IS NOT CHECKED
THEN ENABLE F_{prompt}
ELSE DISABLE F_{prompt}

5 The enable/disable behaviour of F_{input} is defined as follows:

IF $(L_1 \text{ OR } L_2 \text{ OR } \dots \text{ OR } L_k)$ EVALUATES TO (true OR indefinite)
AND F_{defer} IS NOT CHECKED
AND F_{unsure} IS NOT CHECKED
10 THEN ENABLE F_{input}
ELSE DISABLE F_{input}

The enable/disable behaviour of F_{defer} is defined as follows:

15 IF $(L_1 \text{ OR } L_2 \text{ OR } \dots \text{ OR } L_k)$ EVALUATES TO (true OR indefinite)
AND F_{unsure} IS NOT CHECKED
THEN ENABLE F_{defer}
ELSE DISABLE F_{defer}

20 The enable/disable behaviour of F_{unsure} is defined as follows:

IF $(L_1 \text{ OR } L_2 \text{ OR } \dots \text{ OR } L_k)$ EVALUATES TO (true OR indefinite)
AND F_{defer} IS NOT CHECKED
THEN ENABLE F_{unsure}
25 ELSE DISABLE F_{unsure}

The enable/disable behaviour of $F_{\text{unsure-group}}$ is defined as follows:

IF $(L_1 \text{ OR } L_2 \text{ OR } \dots \text{ OR } L_k)$ EVALUATES TO (true OR indefinite)
30 AND F_{defer} IS NOT CHECKED
AND F_{unsure} IS CHECKED
THEN ENABLE $F_{\text{unsure-group}}$

ELSE DISABLE F_{unsure-group}

According to the present invention, whenever a rule associated with an element of content is not evaluated (ie is indefinite), the rule is included in any partially 5 customised document generated in association with its corresponding elements of document content. The corresponding elements of document content are those which would have been included if the rule had evaluated to true, however, they are marked-up in a fashion which indicates that they are still conditional – ie they are still elements of content for possible use when generating further customised documents from the 10 partially customised document and are not included in the document as final content. The mark-up used may be the same as the document template from which the partially customised document was generated. For example, the mark-up may use right and left square brackets, superscript and subscript numerals to identify the unevaluated rules, the corresponding elements of content and their association. On the other hand, the mark- 15 up may be different in style or format to that used in the document template.

Where no rules have been evaluated (for example where all variables have been deferred) the generated document will contain all the elements of document content of the document template marked-up to indicate they are still conditional. If the mark-up style is the same, the generated document will normally be identical to the document 20 template. However, it is also possible to include additional mark-up, for example guidance notes or other information.

Figures 11 to 19 show various input forms (Figures 11a to 19a) as provided with full or partial information by a user, the rule evaluations (or non-evaluations) that are deduced from the information provided (Figures 11b to 19b), and the fully or 25 partially customised documents that are generated as a result (Figures 11c to 19c).

Thus, Figures 11 to 14 show four input forms as provided with the four possible sure answers: 1) Jurisdiction = “England and Wales” (Figure 11a), Jurisdiction = “Scotland” (Figure 12a), 3) Jurisdiction = “Japan” and JapaneseCourt = “Tokyo” (Figure 13a), and 4) Jurisdiction = “Japan” and JapaneseCourt = “Kyoto” (Figure 14a). The deduced rule evaluations are shown in Figures 11b, 12b, 13b and 14b, respectively, and the generated customised documents are shown in Figures 11c, 12c, 13c and 14c, respectively. Note that all of the rules are evaluated (no indefinites) since the answers provided are all sure. Similarly, note that the generated customised documents are final in that they contain no rules or corresponding conditional clauses.

10 Figures 15 and 16 show two input forms as provided with two deferred answers 1) Jurisdiction = “Japan” and JapaneseCourt is deferred (Figure 15a), and 2) both Jurisdiction and JapaneseCourt are deferred (Figure 16a). The deduced rule evaluations are shown in Figures 15b, and 16b, respectively, and the generated partially customised documents are shown in Figures 15c and 16c, respectively. Note that the 15 rules corresponding to deferred variables are not evaluated (indefinite) and that the generated customised documents are partially customised in that they contain those rules which were not evaluated associated with corresponding clauses marked-up to indicate their conditional nature. Thus, in Figure 15b, the only rules not evaluated are JapaneseCourt IS “Tokyo” and JapaneseCourt IS “Kyoto” and the generated partially 20 customised document (Figure 15c) contains those rules. Furthermore, the only clauses which are marked-up in Figure 15c are those dependent on the evaluation of the those rules. The remainder of the document is in final form. However, in Figure 16b, all the rules remain unevaluated and the generated document (Figure 16c) is identical to the

document template of Figure 9 since all the rules are included and all the content is marked-up and associated with the rules.

Figures 17 to 19 show three input forms as provided with three unsure answers

- 1) Jurisdiction is unsure - either “England and Wales” or “Scotland” and not “Japan”
- 5 (Figure 17a), 2) Jurisdiction is unsure - either “England and Wales” or “Japan” and, if “Japan”, JapaneseCourt is “Kyoto” (Figure 18a), and 3) Jurisdiction is unsure but either “England and Wales” or “Japan”, but JapaneseCourt is deferred. The deduced rule evaluations are shown in Figures 17b, 18b and 19b, respectively, and the generated partially customised documents are shown in Figures 17c, 18c and 19c, respectively.
- 10 Note that the rules corresponding to unsure and deferred variables are not evaluated (indefinite) and that the generated customised documents are partially customised in that they contain those rules which were not evaluated associated with corresponding clauses marked-up to indicate their conditional nature.

Thus, in Figure 17b, the rules Jurisdiction = “England and Wales” and

- 15 Jurisdiction = “Scotland” are not evaluated (indefinite) and the generated partially customised document (Figure 17c) contains those rules. Furthermore, the clauses corresponding to those rules are included in Figure 17c and marked-up to show their association with the rules. The generated document contains no final content, but it is partially customised in that some of the rules and corresponding clauses in the original
- 20 document template have been dispensed with as a result of the provision of partial information.

Similarly, in Figure 18b, the rules Jurisdiction = “England and Wales” and Jurisdiction = “Japan” are not evaluated (indefinite) and the generated partially customised document (Figure 18c) contains those rules. Furthermore, the clauses

corresponding to those rules are included in Figure 17c and marked-up to show their association with the rules. The generated document contains no final content, but it is partially customised in that some of the rules and corresponding clauses in the original document template have been dispensed with as a result of the provision of partial

5 information.

Finally, in Figure 19b, the rules Jurisdiction = “England and Wales”, Jurisdiction = “Japan”, JapaneseCourt = “Tokyo”, and JapaneseCourt = “Kyoto” are not evaluated (indefinite) and the generated partially customised document (Figure 19c) contains those rules. Furthermore, the clauses corresponding to those rules are included

10 in Figure 19c and marked-up to show their association with the rules. The generated document contains no final content, but it is partially customised in that one of the rules (Jurisdiction = “Scotland”) and the corresponding element of content in the original document template have been dispensed with as a result of the provision of partial information.

15 The present invention is not limited to the predetermined elements of content in document templates and partially customised documents being text. Content may include text, formatting, pictures, sounds and other digital multimedia. Furthermore, the present invention is not limited to the mark-up described above. Any format or style of mark-up or other indication may be used to indicate rules, their corresponding

20 elements of content and the association between them. Furthermore, the rules and the elements of content in document templates and partially customised documents need not be contained in the same document or other data file. In general, the rules and elements of content may be represented in one or more documents or data files,

provided that the associations between rules and elements of content may be determined using the one or more files.

The present invention is also not limited to document generation systems which capture further information required to generate a fully or partially customised 5 document form users via user interfaces such as the input forms described above. Other types of input form may be employed and, moreover, further information may be captured from sources other than users, for example from databases and expert systems.

Claims:

1. A document generation system for generating a customised document using predetermined elements of document content selected by rules operating on input 5 information; characterised in that:

the system is capable of generating a partially customised document by evaluating some of the rules to select some of the predetermined elements, and associating other of the rules and corresponding predetermined elements with the partially customised document for later use in generating a further customised 10 document.

2. A system according to claim 1, wherein the other rules are represented in the partially customised document in the form of mark-up of the corresponding predetermined elements.

15

3. A system according to any preceding claim, wherein the partially customised document is generated in response to input information which is not sufficient to evaluate the other rules.

20 4. A system according to claims 1 or 2, wherein the partially customised document is generated in response to input information which is sufficient to evaluate at least some of the other rules, but which indicates that the other rules should not be evaluated.

5. A computer-implemented method of document generation in which a customised document is generated using predetermined elements of document content selected by rules operating on input information; characterised in that:

the method is capable of generating a partially customised document by using a 5 computer to evaluate some of the rules to select some of the predetermined elements, the computer associating other of the rules and corresponding predetermined elements with the partially customised document for later use in generating a further customised document.

10 6. A computer program arranged to perform the method of claim 5.

7. A document generation system comprising:

means for accessing a document template comprising predetermined elements of content for possible use when generating a customised document;

15 means for accessing data associated with the document template, the data representing first and second rules for making, respectively, first and second determinations as to the use to be made of the predetermined elements of content when generating a customised document, the first and second determinations each requiring further information to be received;

20 means for receiving information enabling at least the first determination to be made; and

means for making the first determination on the basis of the received information;

characterised in that the system comprises:

means arranged to generate a partially customised document in accordance with the outcome of the first determination; and

means arranged to associate, with the generated partially customised document, data representing the second rule.

5

8. A system according to claim 7, wherein the predetermined elements of content enable customised documents to be generated, from the document template, for each possible combination of outcomes of both the first and second determinations.

10 9. A system according to claims 7 or 8, wherein the first and second rules are represented in the document template in the form of mark-up of the predetermined elements of content.

10. A system according to any of claims 7 to 9, wherein the partially customised 15 document comprises one or more of the predetermined elements of content selected to enable further customised documents to be generated, from the partially customised document, for each possible outcome of the second determination.

11. A system according to claim 10, wherein the second rule is represented in the 20 partially customised document in the form of mark-up of the selected one or more elements of content.

12. A system according to any of claims 7 to 11, wherein the received information comprises at least part of the information required to enable the second determination to be made an indication that the second determination should not be made.

5 13. A system according to any of claims 7 to 12, comprising means for generating a request to receive information enabling at least the second determination to be made, the received information being validly received in response to the request.

14. A system according to claim 13, wherein the generated request is a user request
10 presented to a user in the form of a user interface.

15. A system according to claim 13, wherein the generated request is a database query.

15 16. A computer-implemented method of document generation, the method comprising:

accessing a document template comprising predetermined elements of content for possible use when generating a customised document;

accessing data associated with the document template, the data representing 20 first and second rules for making, respectively, first and second determinations as to the use to be made of the predetermined elements of content when generating a customised document, the first and second determinations each requiring further information to be received;

receiving information enabling at least the first determination to be made; and

making the first determination on the basis of the received information; characterised in that the method comprises: generating, using a computer, a partially customised document in accordance with the outcome of the first determination; and

5 the computer associating, with the generated partially customised document, data representing the second rule.

17. A computer program arranged to perform the method of claim 16.

10 18. A document generation system for generating a customised document using predetermined elements of document content selected by rules operating on variables, the variables representing items of input information; characterised in that: the system is capable of receiving an indication of whether or not a state of a variable is definite, and the system, when processing data in dependence on the variable,

15 responds differently to an indication that the state is definite than to an indication that the state is not definite.

19. A system according to claim 18, wherein the system receives the indication together with input information comprising a value for the variable.

20

20. A system according to claim 18, wherein the system receives the indication without having received a value for the variable.

21. A system according to any of claims 18 to 20, wherein the system is capable of receiving a plurality of mutually independent indications of whether or not the respective states of a respective plurality of variables are definite, the plurality of indications being received in a single response to a request for input information.

5

22. A system according to claim 21, wherein the request is a user request presented to a user in the form of a user interface.

23. A system according to claim 22, wherein the user interface provides means for
10 a user to defer inputting information corresponding to one or more of the variables.

24. A system according to claim 22, wherein the user interface provides means for a user to input information corresponding to one or more of the variables together with an indication that the input information is unsure.

15

25. A system according to claim 21, wherein the generated request is a database query.

26. A method of generating a customised document using predetermined elements
20 of document content selected by rules operating on variables, the variables representing items of input information; characterised in that the method comprises:

receiving an indication of whether or not a state of a variable is definite; and
when processing data in dependence on the variable, responding differently to an indication that the state is definite than to an indication that the state is not definite.

27. A computer program for performing the method of claim 26.

28. A document generation system comprising:

5 means for accessing a document template comprising one or more predetermined elements of content for possible use when generating a customised document;

10 means for accessing data associated with the document template, the data representing a rule for making a determination, on the basis of further information to be received, as to the use to be made of the predetermined elements of content when generating a customised document;

characterised in that the system comprises:

means arranged to receive information indicating that the determination is not to be made;

15 means arranged to generate a partially customised document; and

means arranged to associate, with the generated partially customised document, data representing the rule.

29. A document generation system comprising:

20 means for storing first data representing a document template, said document template comprising a plurality of logical rules each of which determine, on the basis of further information, the use to be made of content when generating a customised document; and

means for receiving further information enabling the use of content to be determined for a first, but not for a second, of said logical rules;

characterised in that the system comprises:

means arranged to generate second data representing a partially customised 5 document on the basis of said first data and said received further information, said second data comprising said second logical rule.

30. A document generation system comprising:

means for storing a document template comprising a first and a second 10 criterion which, together with required further information, enable a first and a second determination to be made, respectively, as to whether or not to include predetermined elements of content when generating a customised document; and

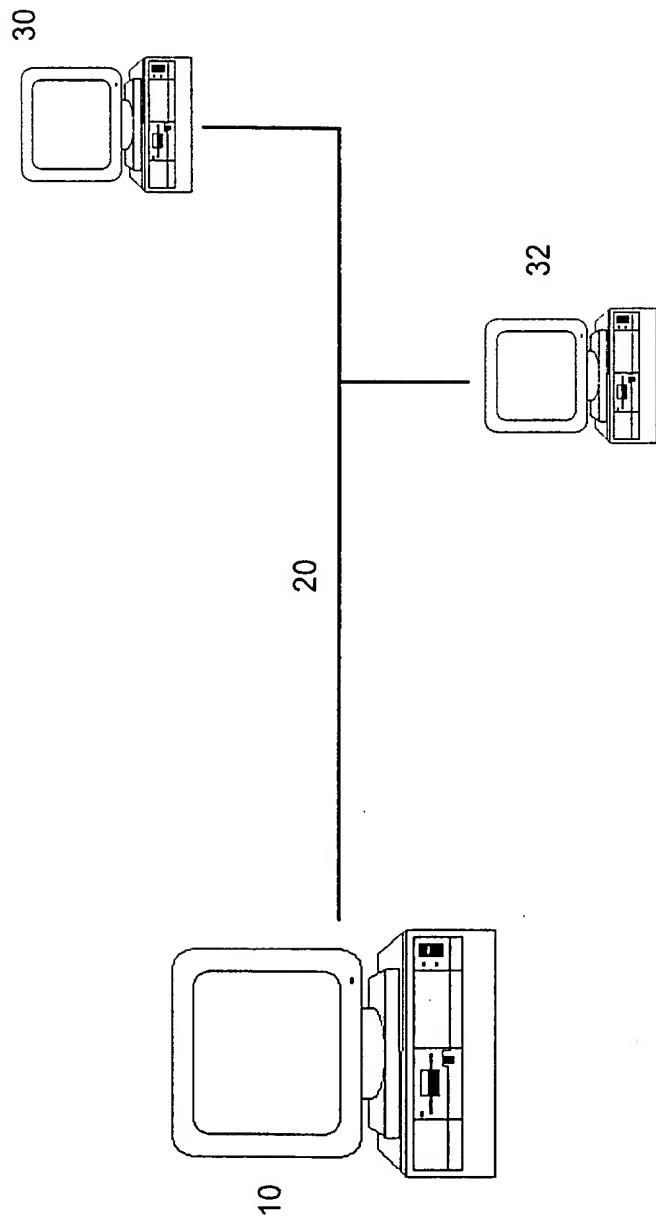
means for receiving further information enabling the first determination, but not the second determination, to be made;

15 characterised in that the system comprises:

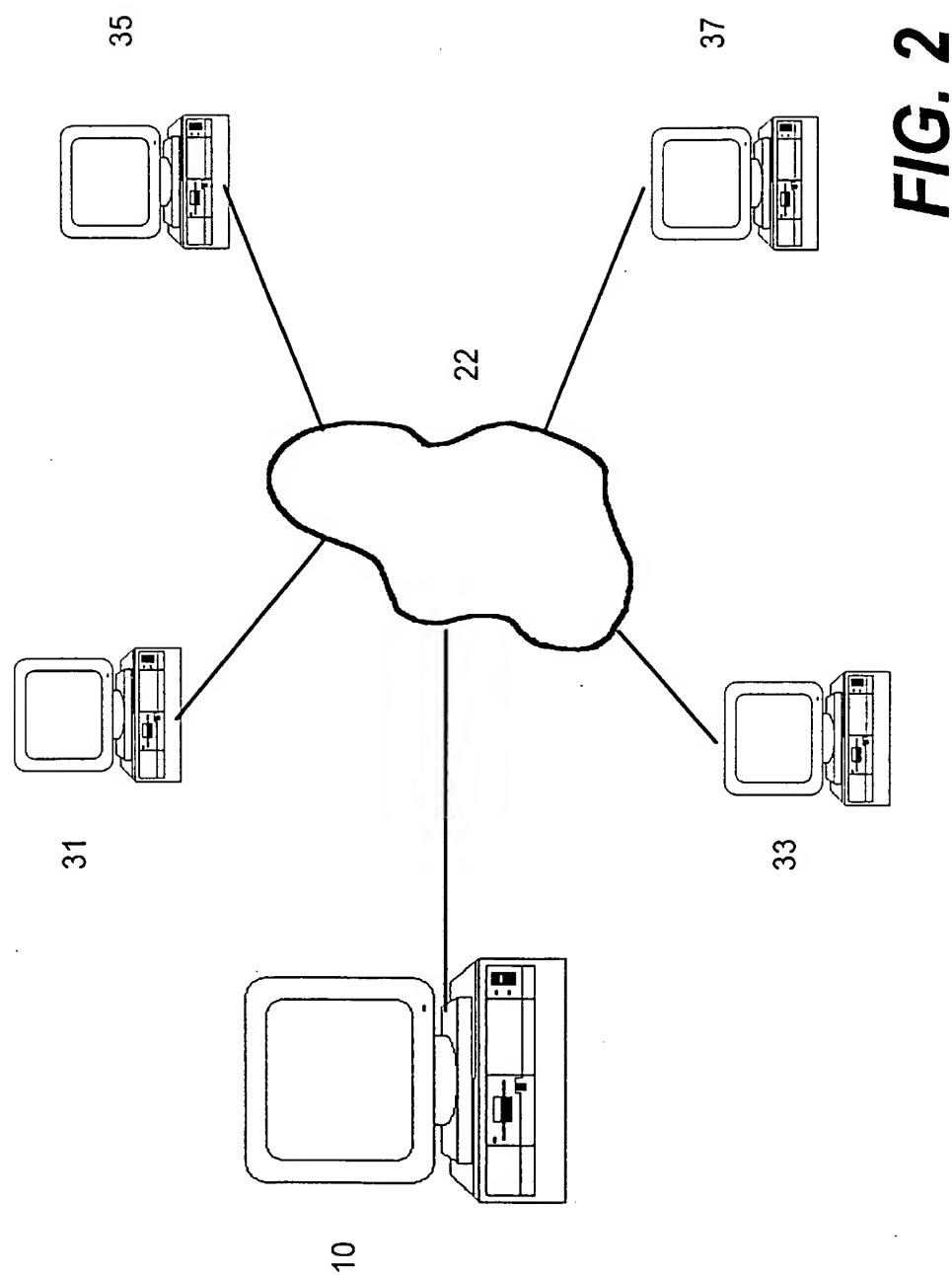
means arranged to generate a partially customised document comprising the second criterion on the basis of the document template and the received further information.

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FIG. 1



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**FIG. 2**

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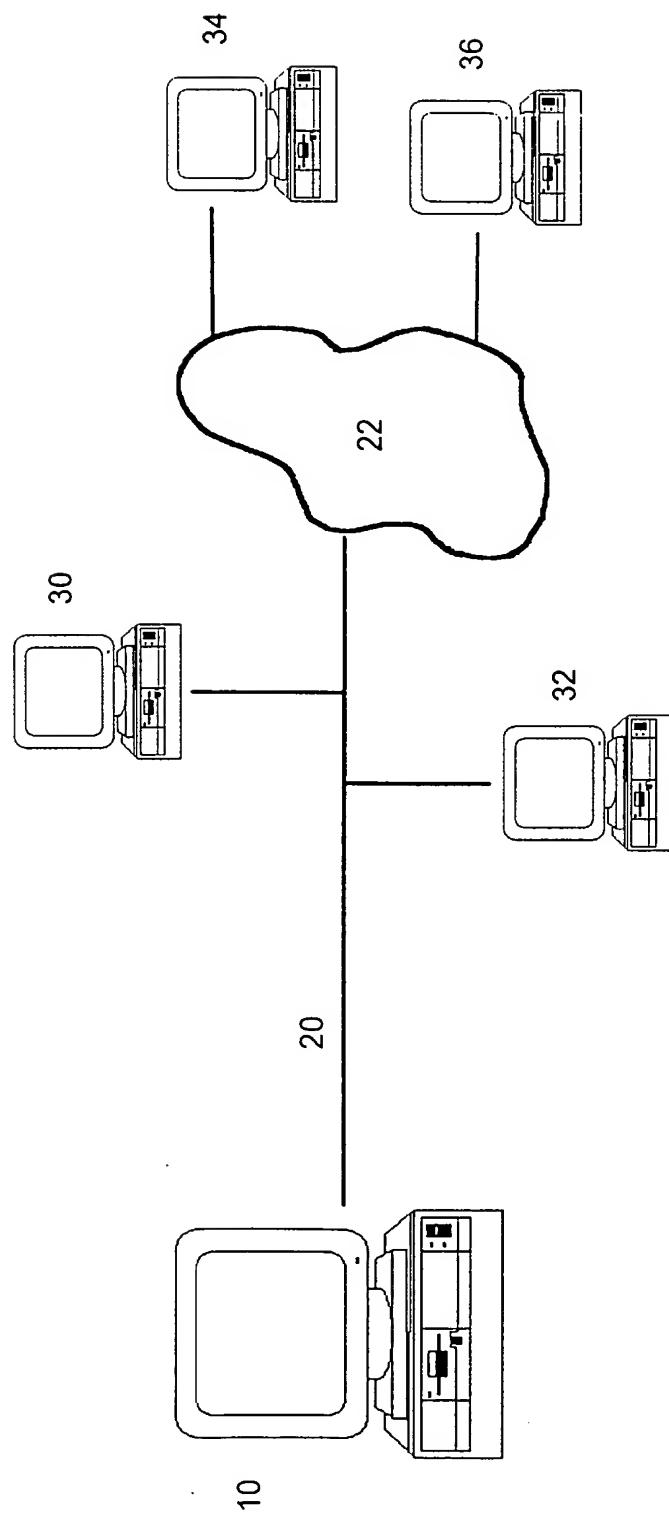


FIG. 3

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Fig. 4

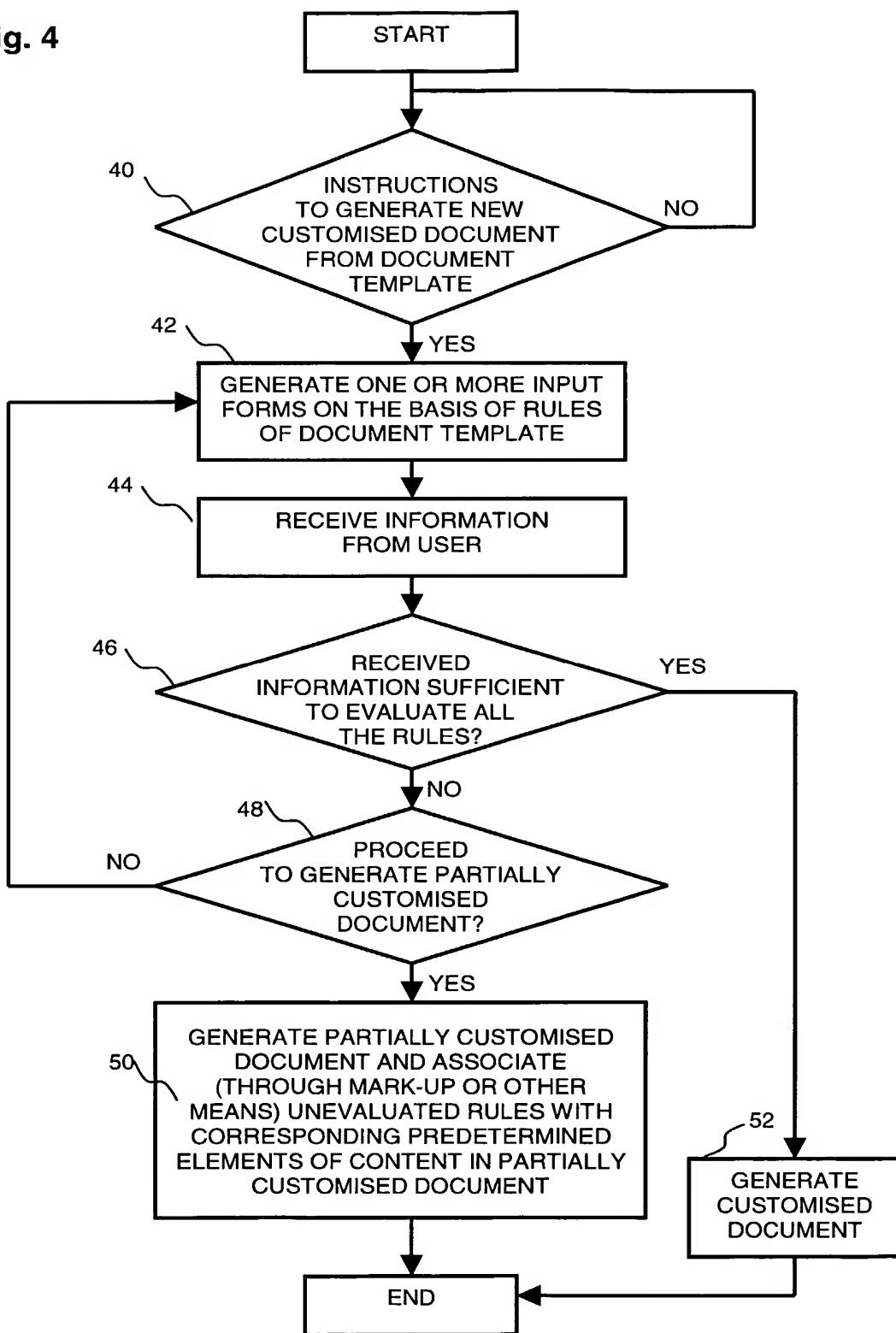


Fig. 5a

LAW

[¹This Agreement shall be governed in all respects by the Laws of England and Wales. The parties hereto agree that any suit, action or proceeding in relation to any claim, dispute or difference which may arise under this Agreement shall be brought in the High Court of London, and irrevocably and unconditionally submit to the non-exclusive jurisdiction of the High Court of London.₁]

[²This Agreement shall be governed in all respects by the Laws of Scotland. The parties hereto agree that any suit, action or proceeding in relation to any claim, dispute or difference which may arise under this Agreement shall be brought in the High Court of Edinburgh, and irrevocably and unconditionally submit to the non-exclusive jurisdiction of the High Court of Edinburgh.₂]

¹ Jurisdiction IS "England and Wales"

² Jurisdiction IS "Scotland"

Fig 5b

LAW

This Agreement shall be governed in all respects by the Laws of England and Wales. The parties hereto agree that any suit, action or proceeding in relation to any claim, dispute or difference which may arise under this Agreement shall be brought in the High Court of London, and irrevocably and unconditionally submit to the non-exclusive jurisdiction of the High Court of London.

Fig 5c

LAW

This Agreement shall be governed in all respects by the Laws of Scotland. The parties hereto agree that any suit, action or proceeding in relation to any claim, dispute or difference which may arise under this Agreement shall be brought in the High Court of Edinburgh, and irrevocably and unconditionally submit to the non-exclusive jurisdiction of the High Court of Edinburgh.

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Fig. 6a

AND	true	false
true	true	false
false	false	false

Fig 6b

OR	true	false
true	true	true
false	true	false

Fig. 6c

XOR	true	false
true	false	true
false	true	false

Fig 6d

NOT	true	false
	false	true

Fig. 7a

AND	true	false	indefinit e
true	true	false	indefinit e
false	false	false	indefinit e
indefinit e	indefinit e	indefinit e	indefinit e

Fig. 7b

OR	true	false	indefinit e
true	true	true	true
false	true	false	indefinit e
indefinit e	true	indefinit e	indefinit e

Fig. 7c

XOR	true	false	indefinit e
true	false	true	indefinit e
false	true	false	indefinit e
indefinit e	indefinit e	indefinit e	indefinit e

Fig. 7d

NOT	true	false	indefinit e
	false	true	indefinit e

Fig. 8

Comparison			State	If	
Variable	Compare	Calculation			
SURE	value ₁	IS	value ₂	true	value ₁ = value ₂
SURE	value ₁	IS	value ₂	false	value ₁ ≠ value ₂
UNSURE	value ₁	IS	value ₂	indefinite	value ₁ = value ₂
UNSURE	value ₁	IS	value ₂	false	value ₁ ≠ value ₂
DEFERRED		IS	value ₂	indefinite	
SURE	value ₁	IS NOT	value ₂	false	value ₁ = value ₂
SURE	value ₁	IS NOT	value ₂	true	value ₁ ≠ value ₂
UNSURE	value ₁	IS NOT	value ₂	false	value ₁ = value ₂
UNSURE	value ₁	IS NOT	value ₂	indefinite	value ₁ ≠ value ₂
DEFERRED		IS NOT	value ₂	indefinite	
SURE	value ₁	LESS THAN	value ₂	false	value ₁ < value ₂
SURE	value ₁	LESS THAN	value ₂	true	value ₁ ≥ value ₂
UNSURE	value ₁	LESS THAN	value ₂	false	value ₁ < value ₂
UNSURE	value ₁	LESS THAN	value ₂	indefinite	value ₁ ≥ value ₂
DEFERRED		LESS THAN	value ₂	indefinite	
SURE	value ₁	MORE THAN	value ₂	false	value ₁ > value ₂
SURE	value ₁	MORE THAN	value ₂	true	value ₁ ≤ value ₂
UNSURE	value ₁	MORE THAN	value ₂	false	value ₁ > value ₂
UNSURE	value ₁	MORE THAN	value ₂	indefinite	value ₁ ≤ value ₂
DEFERRED		MORE THAN	value ₂	indefinite	

Fig 9

LAW

[¹This Agreement shall be governed in all respects by the Laws of England and Wales. The parties hereto agree that any suit, action or proceeding in relation to any claim, dispute or difference which may arise under this Agreement shall be brought in the High Court of London, and irrevocably and unconditionally submit to the non-exclusive jurisdiction of the High Court of London.₁]

[²This Agreement shall be governed in all respects by the Laws of Scotland. The parties hereto agree that any suit, action or proceeding in relation to any claim, dispute or difference which may arise under this Agreement shall be brought in the High Court of Edinburgh, and irrevocably and unconditionally submit to the non-exclusive jurisdiction of the High Court of Edinburgh.₂]

[³This Agreement shall be governed in all respects by Japanese Law. The parties hereto agree that any suit, action or proceeding in relation to any claim, dispute or difference which may arise under this Agreement shall be brought in the [⁴Tokyo₄][⁵Kyoto₅] District Court, and irrevocably and unconditionally submit to the non-exclusive jurisdiction of the [⁴Tokyo₄][⁵Kyoto₅] District Court.₃]

¹ Jurisdiction IS "England and Wales"

² Jurisdiction IS "Scotland"

³ Jurisdiction IS "Japan"

⁴ JapaneseCourt IS "Tokyo"

⁵ JapaneseCourt IS "Kyoto"

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Fig 10a

Prompt	Input	Defer	Unsure
Select the jurisdiction	<input type="radio"/> England and Wales <input type="radio"/> Scotland <input checked="" type="radio"/> Japan	<input type="checkbox"/>	<input type="checkbox"/>
Select the Japanese court	<input checked="" type="radio"/> Tokyo <input type="radio"/> Kyoto	<input type="checkbox"/>	<input type="checkbox"/>

Fig 10b

Prompt	Input	Defer	Unsure
Select the jurisdiction	<input checked="" type="radio"/> England and Wales <input type="radio"/> Scotland <input type="radio"/> Japan	<input type="checkbox"/>	<input type="checkbox"/>
Select the Japanese court			

Fig 10c

Prompt	Input	Defer	Unsure
Select the jurisdiction		<input checked="" type="checkbox"/>	
Select the Japanese court	<input checked="" type="radio"/> Tokyo <input type="radio"/> Kyoto	<input type="checkbox"/>	<input type="checkbox"/>

Fig 10d

Prompt	Input	Defer	Unsure
Select the jurisdiction		<input checked="" type="checkbox"/>	
Select the Japanese court		<input checked="" type="checkbox"/>	

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Fig 10e

Prompt	Input	Defer	Unsure
Select the jurisdiction	<input checked="" type="checkbox"/> England and Wales <input checked="" type="checkbox"/> Scotland <input checked="" type="checkbox"/> Japan	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Select the Japanese court	<input type="radio"/> Tokyo <input checked="" type="radio"/> Kyoto	<input type="checkbox"/>	<input type="checkbox"/>

Fig 10f

Prompt	Input	Defer	Unsure
Select the jurisdiction	<input checked="" type="checkbox"/> England and Wales <input checked="" type="checkbox"/> Scotland <input checked="" type="checkbox"/> Japan	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Select the Japanese court	<input checked="" type="checkbox"/> Tokyo <input checked="" type="checkbox"/> Kyoto	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Fig 10g

Prompt	Input	Defer	Unsure
Select the jurisdiction	<input checked="" type="checkbox"/> England and Wales <input checked="" type="checkbox"/> Scotland <input type="checkbox"/> Japan	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Select the Japanese court			

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Fig 11a

Prompt	Input	Defer	Unsure
Select the jurisdiction	<input checked="" type="radio"/> England and Wales <input type="radio"/> Scotland <input type="radio"/> Japan	<input type="checkbox"/>	<input type="checkbox"/>
Select the Japanese court	<input checked="" type="radio"/> Tokyo <input type="radio"/> Kyoto	<input type="checkbox"/>	<input type="checkbox"/>

Fig 11b

Jurisdiction IS "England and Wales"	true
Jurisdiction IS "Scotland"	false
Jurisdiction IS "Japan"	false
JapaneseCourt IS "Tokyo"	
JapaneseCourt IS "Kyoto"	

Fig 11c

LAW

This Agreement shall be governed in all respects by the Laws of England and Wales. The parties hereto agree that any suit, action or proceeding in relation to any claim, dispute or difference which may arise under this Agreement shall be brought in the High Court of London, and irrevocably and unconditionally submit to the non-exclusive jurisdiction of the High Court of London.

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Fig 12a

Prompt	Input	Defer	Unsure
Select the jurisdiction	<input type="radio"/> England and Wales <input checked="" type="radio"/> Scotland <input type="radio"/> Japan	<input type="checkbox"/>	<input type="checkbox"/>
Select the Japanese court	<input checked="" type="radio"/> Tokyo <input type="radio"/> Kyoto	<input type="checkbox"/>	<input type="checkbox"/>

Fig 12b

Jurisdiction IS "England and Wales"	false
Jurisdiction IS "Scotland"	true
Jurisdiction IS "Japan"	false
JapaneseCourt IS "Tokyo"	
JapaneseCourt IS "Kyoto"	

Fig 12c

LAW

This Agreement shall be governed in all respects by the Laws of Scotland. The parties hereto agree that any suit, action or proceeding in relation to any claim, dispute or difference which may arise under this Agreement shall be brought in the High Court of Edinburgh, and irrevocably and unconditionally submit to the non-exclusive jurisdiction of the High Court of Edinburgh.

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Fig 13a

Prompt	Input	Defer	Unsure
Select the jurisdiction	<input type="radio"/> England and Wales <input type="radio"/> Scotland <input checked="" type="radio"/> Japan	<input type="checkbox"/>	<input type="checkbox"/>
Select the Japanese court	<input checked="" type="radio"/> Tokyo <input type="radio"/> Kyoto	<input type="checkbox"/>	<input type="checkbox"/>

Fig 13b

Jurisdiction IS "England and Wales"	false
Jurisdiction IS "Scotland"	false
Jurisdiction IS "Japan"	true
JapaneseCourt IS "Tokyo"	true
JapaneseCourt IS "Kyoto"	false

Fig 13c

LAW

This Agreement shall be governed in all respects by Japanese Law. The parties hereto agree that any suit, action or proceeding in relation to any claim, dispute or difference which may arise under this Agreement shall be brought in the Tokyo District Court, and irrevocably and unconditionally submit to the non-exclusive jurisdiction of the Tokyo District Court.

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Fig 14a

Prompt	Input	Defer	Unsure
Select the jurisdiction	<input type="radio"/> England and Wales <input type="radio"/> Scotland <input checked="" type="radio"/> Japan	<input type="checkbox"/>	<input type="checkbox"/>
Select the Japanese court	<input type="radio"/> Tokyo <input checked="" type="radio"/> Kyoto	<input type="checkbox"/>	<input type="checkbox"/>

Fig 14b

Jurisdiction IS "England and Wales"	false
Jurisdiction IS "Scotland"	false
Jurisdiction IS "Japan"	true
JapaneseCourt IS "Tokyo"	false
JapaneseCourt IS "Kyoto"	true

Fig 14c**LAW**

This Agreement shall be governed in all respects by Japanese Law. The parties hereto agree that any suit, action or proceeding in relation to any claim, dispute or difference which may arise under this Agreement shall be brought in the Kyoto District Court, and irrevocably and unconditionally submit to the non-exclusive jurisdiction of the Kyoto District Court.

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Fig 15a

Prompt	Input	Defer	Unsure
Select the jurisdiction	<input type="radio"/> England and Wales <input type="radio"/> Scotland <input checked="" type="radio"/> Japan	<input type="checkbox"/>	<input type="checkbox"/>
Select the Japanese court	<input checked="" type="radio"/> Tokyo <input type="radio"/> Kyoto	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Fig 15b

Jurisdiction IS "England and Wales"	false
Jurisdiction IS "Scotland"	false
Jurisdiction IS "Japan"	true
JapaneseCourt IS "Tokyo"	indefinite
JapaneseCourt IS "Kyoto"	indefinite

Fig 15c

LAW

This Agreement shall be governed in all respects by Japanese Law. The parties hereto agree that any suit, action or proceeding in relation to any claim, dispute or difference which may arise under this Agreement shall be brought in the [¹Tokyo₁][²Kyoto₂] District Court, and irrevocably and unconditionally submit to the non-exclusive jurisdiction of the [¹Tokyo₁][²Kyoto₂] District Court.

¹ JapaneseCourt IS "Tokyo"

² JapaneseCourt IS "Kyoto"

Fig 16a

Prompt	Input	Defer	Unsure
Select the jurisdiction	<input checked="" type="radio"/> England and Wales <input checked="" type="radio"/> Scotland <input checked="" type="radio"/> Japan	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Select the Japanese court	<input checked="" type="radio"/> Tokyo <input checked="" type="radio"/> Kyoto	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Fig 16b

Jurisdiction IS "England and Wales"	indefinite
Jurisdiction IS "Scotland"	indefinite
Jurisdiction IS "Japan"	indefinite
JapaneseCourt IS "Tokyo"	indefinite
JapaneseCourt IS "Kyoto"	indefinite

Fig 16c**LAW**

[¹This Agreement shall be governed in all respects by the Laws of England and Wales. The parties hereto agree that any suit, action or proceeding in relation to any claim, dispute or difference which may arise under this Agreement shall be brought in the High Court of London, and irrevocably and unconditionally submit to the non-exclusive jurisdiction of the High Court of London.₁]

[²This Agreement shall be governed in all respects by the Laws of Scotland. The parties hereto agree that any suit, action or proceeding in relation to any claim, dispute or difference which may arise under this Agreement shall be brought in the High Court of Edinburgh, and irrevocably and unconditionally submit to the non-exclusive jurisdiction of the High Court of Edinburgh.₂]

[³This Agreement shall be governed in all respects by Japanese Law. The parties hereto agree that any suit, action or proceeding in relation to any claim, dispute or difference which may arise under this Agreement shall be brought in the [⁴Tokyo₄][⁵Kyoto₅] District Court, and irrevocably and unconditionally submit to the non-exclusive jurisdiction of the [⁴Tokyo₄][⁵Kyoto₅] District Court.₃]

¹ Jurisdiction IS "England and Wales"

² Jurisdiction IS "Scotland"

³ Jurisdiction IS "Japan"

⁴ JapaneseCourt IS "Tokyo"

⁵ JapaneseCourt IS "Kyoto"

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Fig 17a

Prompt	Input	Defer	Unsure
Select the jurisdiction	<input checked="" type="checkbox"/> England and Wales <input checked="" type="checkbox"/> Scotland <input type="checkbox"/> Japan		<input checked="" type="checkbox"/>
Select the Japanese court	<input checked="" type="checkbox"/> Tokyo <input checked="" type="checkbox"/> Kyoto	<input type="checkbox"/>	

Fig 17b

Jurisdiction IS "England and Wales"	indefinite
Jurisdiction IS "Scotland"	indefinite
Jurisdiction IS "Japan"	false
JapaneseCourt IS "Tokyo"	
JapaneseCourt IS "Kyoto"	

Fig 17c

LAW

[¹This Agreement shall be governed in all respects by the Laws of England and Wales. The parties hereto agree that any suit, action or proceeding in relation to any claim, dispute or difference which may arise under this Agreement shall be brought in the High Court of London, and irrevocably and unconditionally submit to the non-exclusive jurisdiction of the High Court of London.₁]

[²This Agreement shall be governed in all respects by the Laws of Scotland. The parties hereto agree that any suit, action or proceeding in relation to any claim, dispute or difference which may arise under this Agreement shall be brought in the High Court of Edinburgh, and irrevocably and unconditionally submit to the non-exclusive jurisdiction of the High Court of Edinburgh.₂]

¹ Jurisdiction IS "England and Wales"

² Jurisdiction IS "Scotland"

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Fig 18a

Prompt	Input	Defer	Unsure
Select the jurisdiction	<input checked="" type="checkbox"/> England and Wales <input type="checkbox"/> Scotland <input checked="" type="checkbox"/> Japan		<input checked="" type="checkbox"/>
Select the Japanese court	<input type="radio"/> Tokyo <input checked="" type="radio"/> Kyoto	<input type="checkbox"/>	

Fig 18b

Jurisdiction IS "England and Wales"	indefinite
Jurisdiction IS "Scotland"	false
Jurisdiction IS "Japan"	indefinite
JapaneseCourt IS "Tokyo"	false
JapaneseCourt IS "Kyoto"	true

Fig 18c

LAW

[¹This Agreement shall be governed in all respects by the Laws of England and Wales. The parties hereto agree that any suit, action or proceeding in relation to any claim, dispute or difference which may arise under this Agreement shall be brought in the High Court of London, and irrevocably and unconditionally submit to the non-exclusive jurisdiction of the High Court of London.]

[²This Agreement shall be governed in all respects by Japanese Law. The parties hereto agree that any suit, action or proceeding in relation to any claim, dispute or difference which may arise under this Agreement shall be brought in the Kyoto District Court, and irrevocably and unconditionally submit to the non-exclusive jurisdiction of the Kyoto District Court.₂]

¹ Jurisdiction IS "England and Wales"

² Jurisdiction IS "Japan"

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Fig 19a

Prompt	Input	Defer	Unsure
Select the jurisdiction	<input checked="" type="checkbox"/> England and Wales <input type="checkbox"/> Scotland <input checked="" type="checkbox"/> Japan		<input checked="" type="checkbox"/>
Select the Japanese court	<input checked="" type="checkbox"/> Tokyo <input type="checkbox"/> Kyoto	<input checked="" type="checkbox"/>	

Fig 19b

Jurisdiction IS "England and Wales"	indefinite
Jurisdiction IS "Scotland"	false
Jurisdiction IS "Japan"	indefinite
JapaneseCourt IS "Tokyo"	indefinite
JapaneseCourt IS "Kyoto"	indefinite

Fig 19c**LAW**

[¹This Agreement shall be governed in all respects by the Laws of England and Wales. The parties hereto agree that any suit, action or proceeding in relation to any claim, dispute or difference which may arise under this Agreement shall be brought in the High Court of London, and irrevocably and unconditionally submit to the non-exclusive jurisdiction of the High Court of London.₁]

[²This Agreement shall be governed in all respects by Japanese Law. The parties hereto agree that any suit, action or proceeding in relation to any claim, dispute or difference which may arise under this Agreement shall be brought in the [³Tokyo₃][⁴Kyoto₄] District Court, and irrevocably and unconditionally submit to the non-exclusive jurisdiction of the [³Tokyo₃][⁴Kyoto₄] District Court.₂]

¹ Jurisdiction IS "England and Wales"

² Jurisdiction IS "Japan"

³ JapaneseCourt IS "Tokyo"

⁴ JapaneseCourt IS "Kyoto"

INTERNATIONAL SEARCH REPORT

International Application No

PCT/NO 03/00071

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 A61B5/117 G06K9/00 H01L23/48

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHEDMinimum documentation searched (classification system followed by classification symbols)
 IPC 7 A61B G06K H01L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01 94902 A (IDEX AS ;NYSAETHER JON (NO); TSCHUDI JON (NO); VERMESAN OVIDIU (NO) 13 December 2001 (2001-12-13) abstract; claims 1,2,6-8; figure 1	1,3-8
Y	---	2,9
Y	WO 01 99035 A (SEEBERG BJOERN ERIK ;IDEX AS (NO); NYSAETHER JON (NO); VERMESAN OV 27 December 2001 (2001-12-27) page 7, line 10 - line 31 page 8, line 28 - line 33 page 11, line 20 - line 36 abstract; claim 1; figures 1,3 ---	2
		-/-

 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

° Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
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- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

15 May 2003

Date of mailing of the international search report

02.06.2003

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/NO 03/00071

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 01 99036 A (IDEX AS ; NYSAETHER JON (NO); TSCHUDI JON (NO); VERMESAN OVIDIU (NO) 27 December 2001 (2001-12-27) page 6, line 29 -page 7, line 3 abstract; figure 1 -----	9

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/NO 03/00071

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WO 0199036	A	27-12-2001	NO 20003003 A AU 6443001 A EP 1303829 A2 WO 0199036 A2	10-12-2001 02-01-2002 23-04-2003 27-12-2001